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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,919	11/16/2000	Andre Messager	Q61752	2952

7590 12/15/2004

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EXAMINER	
MAIS, MARK A	
ART UNIT	**PAPER NUMBER**
2664	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/712,919	MESSAGER ET AL.	
	Examiner	Art Unit	
	Mark A Mais	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 10-11, 13-15, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godse et al. (USP 5,974,048) in view of Luong (USP 6,314,105).

3. With regard to claims 1-3, 10-11, 13-15, and 33, Godse et al. discloses a method of transmitting data in which, to broadcast a block of information from a first terminal to a set of destination second terminals, each of which second terminals is connected to a switch of a network **[Figs. 1, 6, and 9, where the root modules 13, 15, and 18 can be a switching module (ATM switch) or a broadcast module, col. 3, line 66 to col. 4, line 1, and col. 4, lines 46-50; *see also* col. 5, lines 59-60). Each root module is connected to an end system 17 which can be a computer 32, see Fig. 4, col. 4, lines 56-61. Each root module can be connected to other root modules (col. 6, lines 52-57) and ultimately to the network, and therefore, in a spanning tree methodology such as in Fig. 8a wherein each broadcast module sets up a link between the BN connected to the Upstream End System (UES) and each of the adjacent BNs]**. The method consists of: transmitting the block of information form the first terminal to a

broadcast module in a first switch **[Fig. 8a, Broadcast Node (BN) within any one of root modules 13, 15, or 18]** which is connected directly to said first terminal **[Fig. 8a, BN connected directly to Upstream End Systems (UES) 17]**, broadcasting said block of information from said broadcast module to switches adjacent said first switch and to destination second terminals which are connected directly to said first switch **[Fig. 8a, BNs further down the spanning tree, each succeeding level labeled as a 'Leaf Link'; *see also* Fig. 9, wherein each BN can be connected directly to either/both another BN or an End System (computer) 17]**, and receiving said block of information in the destination second terminals **[Fig. 8a, downstream cells received at the ES; *see also* col. 6, lines 36-44]**, and the block of information is transmitted from the first terminal to the broadcast module by sending a call request packet **['SSetup' request message, col. 7, lines 17-22]** from the first terminal to the broadcast module of the first switch to request the setting up of a virtual circuit between said first terminal and the broadcast module of the first switch **[col. 2, lines 39-40, each device needs a separate VC for signaling, col. 7, lines 23-28, wherein 'SConnect' message allocates the VPI/VCI]** placing a block of information to be broadcast in the data packets or user data field of the virtual circuit set up between said first terminal and the broadcast module **[Fig. 8a, downstream cells received at the ES; *see also* col. 6, lines 36-44]** in response to said call request packet **['SSetup' request message, col. 7, lines 17-22]**, and receiving the block of information in the second terminals **[ES, Fig. 8a]**.

4. Godse et al. does not specifically disclose using the X.25 protocol. However, Luong (USP 6,314,105) discloses a connection-oriented, packet-switched network that uses ATM cells **[col. 1,**

lines 2-5]. It is well known in the art that X.25 is a connection-oriented protocol, which requires VPs/VCs to be set up before serially transferring data packets. Moreover, Luong e al. discloses that X.25 is a connection-oriented, packet-switched protocol, which is similar enough to ATM to as to be implemented interchangeably **[col. 6, lines 39-40]**. Thus, it would have obvious to one of ordinary skill in the art at the time of the invention to have used an X.25 protocol instead of the ATM protocol because the two protocols make use of packet-switched connection-oriented methodologies. More importantly, either the X.25 or the ATM protocols can provide a mechanism for a source station to send data packets along a specific path to a destination station **[col. 1, lines 18-21 and 27-32]**.

5. With regard to claims 10 and 11, Godse et al. does not specifically disclose a means for storing and then broadcasting a block of information to be broadcast that has been placed in the data packets or the user data field. However, it is well known in the art that a switch will have memory in order to route data packets. For example, Lee et al. (USP 5,719,862) discloses a switch buffer that can be configured to route data packets within a network by using one of several methods to include (1) store and forward, (2) cut-through, and (3) modified cut-through **[col. 10, lines 11-20]**. Moreover, Lee et al. discloses an ATM switch, which uses a virtual path identifier [virtual circuit] and routes data packets using a MAC address look-up table **[col. 9, lines 12-16]**.

6. With regard to claims 9 and 26-32, Godse et al. discloses one terminal external to the switches **[UES and ES, Fig. 8a]**.

7. Claims 4-8, 12, 16-17, 18-25, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godse et al. (USP 5,974,048) and Luong (USP 6,314,105), further in view of Murphy et al. (USP 6,545,982).

8. With respect to claims 4-8, 12, 16-17, 18-25 and 35, neither Godse et al. nor Luong specifically disclose that each switch tests whether an adjacent switch has already received a block of information to be broadcast before sending the block to it (this is related to preventing 'flooding'--wherein a root terminal in a spanning tree routes identical data packets to all the adjoining and downstream switches, thereby wasting bandwidth, memory, and processing resources) and then sending the block of information only if the second switch [and a directly connected terminal] belongs to an expected category **[wherein the first terminal inherently belongs to the same expected category for broadcast transmissions and that category is sent via 'SSetup' as discussed for claims 1-3, 10-11, 13-14, and 15 above]**. Godse et al. discloses separate VCIs for signaling **[col. 2, lines 39-40]** in order to determine which VCI has appropriate bearer traffic **[col. 2, lines 45-46]** and broadcast cells to other devices but will only accept the cells it's been told to accept. Thus, Godse et al. only discloses the expected categories received by the second switches and their directly-connected terminals received *from the first switch* **[expected categories for Murphy et al. are interpreted by the examiner as those categories meeting any of several custom filtering rules wherein the packets are tested *by each adjacent second switch (and directly-connected terminal)*]**. Murphy et al. discloses a method of routing data packets, which incorporates a spanning tree algorithm **(col. 8, lines 3-9)** as well as

custom filtering rules (CFRs) for packets, which determine whether to filter received blocks of information flagged to be broadcasted **[col. 8, lines 15-26; *see also* col. 5, lines 28-37, wherein the difference between broadcast and selective broadcast (multicast)]**. Moreover, the templates disclosed by Murphy et al. discloses various combinations of source address, destination address and/or port, and specific rules-based masks that able to filter out packets even with very complex filtering conditions **[col. 8, lines 27-64]** before they are broadcast. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the custom filtering rules (CFRs) **[col. 8, lines 49-52]** in Murphy et al. to the combined method/structure of Godse et al. and Luong in order to test whether each adjacent switch has already received the block of information. Specifically, Murphy et al. tests whether the adjacent switches have received a block of information to be broadcast by first checking for the multicast/broadcast flag **[Fig. 3, Broadcast/Multicast flag 21 = '1'; col. 5, lines 28-35]**, and then generating the forwarding data structure, XMASK 55 (which is the destination port that the packet is to be forwarded to) **[Fig. 9, XMASK; col. 11, lines 12-14; *see also* col. 14, lines 1-8 describing inputs required for producing XMASK 55]**. CFRs control packet transmission (a.k.a. filtering) based on packet contents and/or datafield contents **[col. 14, lines 26-29; datafield 17, Fig. 2; *see*, for example, Fig. 5, and col. 8, lines 33, where the filtering of a packet is described based on Mask 31; *see also* col. 8, lines 49-52 and 59-64, where various combinations of parameters are possible for filtering out of specific packets]**. Therefore, each adjacent switch controls the packet transmission to be broadcast to adjoining switches based on the CFRs (which checks for previously received blocks of information) and will only transmit

the block of information to an adjacent switch (and those terminal directly connected to those adjacent switches) if the CFRs allow the transmission.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Godse et al. (USP 5,974,048) and Luong (USP 6,314,105), and Murphy et al. (USP 6,545,982), further in view of Fuchs et al. (EP 0461279A1).

10. With respect to claims 34, neither Godse et al., Luong, nor Murphy et al. specifically disclose inserting a rank number in the block of information to be broadcast. Godse et al. discloses using messaging **[SSetup and SConnect, col. 7, lines 28]** and Murphy et al. discloses using masks for filtering the broadcast information. Murphy et al. therefore, uses the custom filtering to determine whether or not to broadcast specific packets **[see explanation above]**. Murphy et al. does not specifically disclose using a rank number for determining of whether a packet should be rebroadcast. However, Fuchs et al. (EP 0461279A1) discloses a methodology for rebroadcasting broadcast information by using the lowest sequence number **[abstract]**. Thus, Fuchs et al. discloses inserting a link sequence number and rebroadcasting packets to only those nodes (router) which have priority (high-enough rank) based on the preselected threshold of low link sequence **[page 3, lines 24-28]**. Thus, it would have obvious to one of ordinary skill in the art to include a rank number **[or several other criteria as discussed in Murphy et al., col. 8, lines 27-64]** for determining whether or not to broadcast/rebroadcast specific packets.

Response to Arguments

11. Applicant's arguments filed 06 July 2004 have been fully considered but they are not persuasive.

12. Applicant argues that all Godse et al. broadcasts all information to all broadcast nodes and not only to adjacent nodes and directly-connected terminals. However, as discussed above in paragraph 8, Godse et al. does, in fact, disclose selectively sending packets to specific broadcast nodes.

13. Applicant argues that one connection-oriented protocol that requires VPs and VCs (ATM protocol) cannot be interchanged with another connection-oriented protocol that uses VPs and VCs (X.25 Protocol). Moreover, Applicant argues that Luong et al. does not use the words 'interchangeable' instead of 'similar' in order persuade the examiner that one type of connection-oriented network is not always interchangeable and/or does not have the same type characteristics as another and, thus, that the references can not be combined **[Applicant's arguments, July 6, 2004, page 14, line 10 to page 16, line 9]**. In addition, Applicant uses substantially the same argument for arguing claims 10-11 **[page 16, lines 10-20]**.

(a) First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, i.e., the claim feature of "only X.25" (interpreted by the examiner in Applicant's discussion of 'interchangeable' versus 'similar'), is not recited in the rejected claims. Although the claims are

interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(b) Second, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the knowledge is generally available to one of ordinary skill in the art. Moreover, Luong et al. clearly explains the state of the art at the time of the invention wherein ATM is a connection-oriented protocol that can be used interchangeably with X.25. There is no discussion in Applicant's specification as to why *only* the connection-oriented X.25 protocol can be used with the current Application and where no obvious modification can be made. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use X.25 protocol instead of ATM protocol in Godse et al.

14. Applicant argues that Murphy et al. fails to disclose testing whether or not an adjacent switch has already received a block of information. Specifically, Applicant argues that Murphy et al. only the monitoring a selected node (port) as opposed to monitoring the adjacent nodes (ports) **[page 17, lines 1-14]**. Murphy et al. discloses testing whether or not a node has received a block of information by filtering out information, for example via the XMASK 55, as described

above in paragraph 8 above. Murphy et al. modifies the Bridging Table **[col. 7, lines 19-40]**. The node disclosed in Murphy et al. tests whether a packet has been sent to another node by checking the source address of each packet received from each switch (port) **[col. 7, lines 19-22]**. Since it uses the spanning–tree algorithm, the node already has an internal map of the network **[col. 8, lines 3-14]**. Thus, when a packet is received that has a source address but different destination node (port), it determines that the particular adjacent node has not received the block of information and forwards the packet to the node indicated by the packet **[col. 7, lines 6-10]**.

15. Applicant further argues that Murphy et al. does not specifically disclose the X.25 protocol. However, Godse et al. discloses a connection-oriented protocol and Luong et al. discloses the state of the art as explained in paragraph 13(b) above.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A Mais whose telephone number is (571) 272-3138. The examiner can normally be reached on 8:00-4:30.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 27, 2004